WILDLIFE MANAGEMENT UNIT 10 (16A & 16B) - BOOK CLIFFS

Boundary Description

Uintah and Grand Counties - Boundary begins at Interstate 70 and the Green River in Green River; northeast along the Green River to the White River; east along the White River to the Utah-Colorado state line; south along the Utah-Colorado state line to I-70; southwest along I-70 to the Green River and beginning point.

Management Unit Description

This management unit includes both the North Book Cliffs (old herd unit 16A), and the South Book Cliffs (old herd unit 16B). Of the entire land area of the Book Cliffs, about 2.1 million acres are classified as deer range. Of this 2.1 million acres, 66% is classified as deer winter range, 23% as deer summer range, and 11% as year-long range. Approximately 1.7 million acres in the Book Cliffs are classified as elk range with 50% of this being elk winter range, 27% elk summer range, and 23% year-long range. The Bureau of Land Management manages 58% of all the area classified as mule deer ranges, and 56% of all the area classified as elk ranges. State of Utah Trust Lands and Native American Trust Lands make up most of the remainder of deer and elk ranges on the Book Cliffs.

Key Areas

On the North Book Cliffs, areas such as Lower McCook Ridge, Big Park, the Crows Roost, Sunday School Canyon, Indian Ridge, and Atchee Ridge all support concentrations of wintering deer. Elk utilize many of the same areas, especially McCook Ridge. The winter range is composed of several main vegetative types including: pinyon-juniper, salt desert shrub, and Wyoming big sagebrush. The consensus is that the quantity and quality of the summer range are the most limiting factors on this unit. Vegetative composition on the summer range is principally sagebrush-grass and mountain brush with isolated patches of conifer and aspen. During the late 1990's, the BLM completed several thousand acres of prescribed burning in the mountain big sagebrush and mountain brush zones to improve herbaceous vegetation on summer ranges.

The South Book Cliffs is valuable mainly as deer winter range. With a maximum elevation of just over 9,000 feet, the unit contains only small amounts of fawning areas and summer range with few deer residing in the unit year-round. However, many deer that spend the summer on higher ranges in the northern portion of the unit, migrate annually to winter ranges in the southern portion of the unit. Terrain between the higher summer ranges and lower winter ranges in the south is steep and rugged and is used primarily as a travel corridor with limited migration occurring over a short period of time. The upper limits of the normal winter range are found normally between 8,000 and 8,500 feet, depending on the slope and exposure. During severe winters the upper limits are usually lowered to about the 7,000 feet. The lower limits of the winter range are bordered by the salt desert type at approximately 5,000 feet. There are concentrations of wintering deer at Horse Pasture, Nash Wash, Cottonwood Ranch, and the Pear Park area. Due to the steep, rough terrain at the upper elevations of the winter range, these lower critical areas have been historically over utilized by livestock and game for a long period of time.

Livestock Grazing

Pictographs and petroglyphs found in the unit indicate historically the presence of bighorn sheep, deer, buffalo, and elk in the area before settlement by Europeans. Although large herds of cattle and sheep were brought into the area around Moab in the mid-1870's and the 1890's respectively, livestock use on the South Book Cliffs was limited to the stock of local settlers. This changed in the 1920's when Colorado sheepmen began wintering large

herds on the South Book Cliffs. During this period, as many as 200,000 sheep were using the range each winter (Carter 1983). Hundreds of wild horses were also present during the early 1900's. However, none remained when the Wild Horse and Burro Act was passed in 1971. In cooperation with local ranchers, the BLM has been working on fences, water developments, and other improvements to encourage more uniform use of the range by livestock (Carter 1983).

The North Book Cliffs is broken up into several allotments including: Atchee Ridge, Sweetwater, Winter Ridge, Sunday School, and Book Cliffs Pasture. The Atchee Ridge and Sweetwater allotments are summer allotments with a deferred rest rotation grazing system for 1,500 to 1,800 cattle. The Winter Ridge and Book Cliffs Pasture allotments are summer allotments with a deferred grazing system. The Sunday School allotment is a winter allotment with a deferred rotation grazing system.

Trend studies on the South Book Cliffs occur in 3 allotments, the Cisco, Floy Creek and Cisco Mesa allotments. Most of the trend studies occur within the Cisco allotment. It is grazed by sheep from December 1st through May 10th. Cattle grazing occurs from November 1st through May 10th. The Cisco Mesa allotment is a sheep allotment which is used from November 15th through May 15th for 2,628 AUM's. The Floy Creek allotment was a sheep allotment which was converted to cattle about 5 years ago to avoid disease problems with bighorn sheep. It currently is used from November 15th through May 15th for 958 AUM's on a 4-pasture deferred rotation.

Big Game Management Objectives

Following the liberal hunting regulations of the late 1950's and 1960's, deer numbers were low and recovery has been slow. The buck only (1974-77) and 4-point-or-better (1978-84) restrictions have played a role in increases in deer numbers and hunter success. Between 1986 and 1993 however, the harvest of bucks slowly declined. The extended drought and the harsh winter of 1992-93 had detrimental effects upon the deer population in the Book Cliffs and throughout the state. Deer hunting was closed in the mid-1990's due to low population numbers, and re-opened again in 1999 as a limited entry hunting area. Currently, both deer and elk hunting are on a limited entry basis. Pronghorn are also hunted on the Book Cliffs unit.

The most current deer herd management objectives for the Book Cliffs call for a target population of 15,000 wintering deer distributed in the following way: 10,000 wintering deer on the North Book Cliffs, and 5,000 wintering deer on the South Book Cliffs. Management objectives also call for a post-season buck to doe ratio of 15:100 with 30% of the bucks being 3-point-or-better. The wintering population should result in an expected harvest of 1,000 bucks on the Bitter Creek and Little Creek portions of the unit (north), and 450 bucks on the southern portion of the unit.

Management objectives for elk herds call for 7,500 wintering animals with 6,500 of these being distributed in the north and 1,000 in the south. These are preliminary population objectives that will be re-evaluated after a two-year stabilization study is completed upon which actual population objectives will be determined. Objectives call for a bull to cow ratio of 8:100 with at least 50% of the bulls being 2 ½ years of age or older.

Management concerns on Unit 10 principally revolve around low fawn production, summer range condition and/or quality, especially fawn rearing habitat, and the increasing demands for oil and gas development. There is also the possibility at some later date that oil shale and tar sands would be developed.

Study Site Description

Permanent range trend studies were initially established in the North Book Cliffs (old unit 16A) in 1982, with five studies being established. Seven additional studies were established in 1988, and one more in 1995. At a

local interagency meeting in Moab in May 1986, interagency personnel selected nine range trend study sites for the South Book Cliffs (old unit 16B) initially. Three additional studies were established in the Book Cliffs roadless area in 1990. The transects on the North Book Cliffs were re-read during 1988, 1995, and 2000. Transects on the South Book Cliffs were re-read in 1995 and 2000. Most of these initial studies were placed on what was considered important winter ranges.

In addition to these regularly established trend studies, 31 additional range trend studies were established between 1997 and 1999 to address conflicts over elk and livestock use in the Book Cliffs. These sites were primarily placed on summer range areas to monitor use by both elk and livestock. Of the 56 total range trend studies in the Book Cliffs unit, 42 were re-read in 2000. Twenty-five of these occur on winter ranges, nine on transitional ranges, and eight on summer ranges. A site description, map, trend discussion, and data tables for each of the transects follows.

SUMMARY

WILDLIFE MANAGEMENT UNIT - 10 (16A & 16B) BOOK CLIFFS

The Book Cliffs unit has 42 trend study sites. Of these sites, 25 monitor the winter range, nine are on transitional range, and eight are on summer range. Some apparent unit wide trends noted in 2000 are listed below.

Twenty-three of the 25 winter range trend studies sampled at least two times show the following:

Herbaceous trends

- 83% contain some cheatgrass
- 70% show a substantial decline in cheatgrass cover and nested frequency
- 70% of the sites show a substantial decline in the sum of nested frequency for forbs

Sagebrush trends

- 74% of sites show increased percent decadence for sagebrush
- 70% of sites show more plants with poor vigor
- 48% of sites have few or no seedlings
- 30% have few or no young
- 30% of winter range sites displayed reduced use of sagebrush compared to 1995
- 26% of the winter range sites which showed reduced use since 1995 also had increased percent decadence, increased poor vigor and/or poor biotic potential (# of seedlings), and poor young recruitment

All of these trends appear to be due to a very dry fall-winter of 1999 followed by an extremely dry spring and summer in 2000. The dry conditions also affected some of the transitional and summer range trends, but to a lesser degree. Of the 17 transitional and summer range trend studies, 41% showed increased percent decadence for sagebrush, and 24% showed increased number of plants with poor vigor. Forbs also had decreased sum of nested frequency values on 41% of these sites. Trends for each site can be found in the following table:

TREND SUMMARY

	Category	1982	1988	1995	1997	2000
10-1 Indian Ridge	soil	est	4	3	NR	3
	browse	est	3	5	NR	2
	herbaceous understory	est	4	1	NR	1
10-2 McCook Ridge Exclosure	soil	est	4	4	3	3
	browse	est	5	3	2	3
	herbaceous understory	est	4	4	3	4
10-3 McCook Ridge Chaining	soil	est	5	3	NR	3
	browse	est	2	5	NR	2
	herbaceous understory	est	5	5	NR	2
10-4 Wirefence Point	soil	est	4	3	3	2
	browse	est	5	3	2	3
	herbaceous understory	est	5	3	3	2
10-5 Willow Flat	soil	est	4	3	NR	2
	browse	est	5	5	NR	3
	herbaceous understory	est	5	3	NR	2
	Category		1988	1995	1997	2000
10-6 Little Jim Canyon	soil		est	3	NR	3
	browse		est	2	NR	3
	herbaceous understory		est	1	NR	2
10-7 Cherry Mesa	soil		est	3	3	2
	browse		est	4	3	3
	herbaceous understory		est	2	2	2
10-8 Black Horse	soil		est	4	NR	3
	browse		est	4	NR	3
	herbaceous understory		est	3	NR	3
10-9 Agency Draw	soil		est	4	NR	3
	browse		est	4	NR	2
	herbaceous understory		est	4	NR	3

(1) = down, (2) = slightly down, (3) = stable, (4) = slightly up, (5) = up
est = site established, NR = site not read

	Category		1988	1995	1997	2000
10-10 Sunday School	soil		est	3	NR	2
	browse		est	3	NR	3
	herbaceous understory		est	1	NR	5
10-11 Park Ridge	soil		est	3	NR	2
	browse		est	3	NR	2
	herbaceous understory		est	2	NR	3
10-12 Wolf Den	soil		est	3	NR	3
	browse		est	3	NR	3
	herbaceous understory		est	3	NR	3
10-13 Moon Ridge Burn	soil			est	4	5
	browse			est	3	1
	herbaceous understory			est	3	1
	Category	1986		1995		2000
10-14 East Floy Bench	soil	est		3		2
	browse	est		3		2
	herbaceous understory	est		1		3
10-15 East Thompson Bench	soil	est		3		2
	browse	est		4		3
	herbaceous understory	est		3		3
10-16 West Horse Pasture	soil	est		3		2
	browse	est		3		3
	herbaceous understory	est		4		3
10-17 East Calf Canyon	soil	est		3		2
	browse	est		4		3
	herbaceous understory	est		3		2
10-18 East Horse Pasture	soil	est		3		2
	browse	est		4		3
	herbaceous understory	est		4		3

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	Category	1986		1995		2000
10-19 Lower Cottonwood	soil	est		3		NR
	browse	est		1		NR
	herbaceous understory	est		4		NR
10-20 Upper Cottonwood	soil	est		3		2
	browse	est		3		2
	herbaceous understory	est		4		4
10-21 East Sulfur Bench	soil	est		3		NR
	browse	est		1		NR
	herbaceous understory	est		4		NR
10-22 Bryson Draw	soil	est		3		NR
	browse	est		4		NR
	herbaceous understory	est		3		NR
10-23 Bogar-She	soil			est		NR
	browse			est		NR
	herbaceous understory			est		NR
	Category		1990	1995		2000
10-24 Turner Canyon	soil		est	5		3
	browse		est	3		3
	herbaceous understory		est	3		2
10-25 Little Ridge	soil			est		NR
	browse			est		NR
	herbaceous understory			est		NR
10-26 Bitter Creek	soil					est
	browse					est
	herbaceous understory					est

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	Category	1997		2000
10R-2 Lone Spring	soil	est		3
	browse	est		5
	herbaceous understory	est		3
10R-3 Burnt Timber	soil	est		3
	browse	est		1
	herbaceous understory	est		3
10R-4 Two Water WMA	soil	est		2
	browse	est		5
	herbaceous understory	est		3
10R-5 Lower Tom Patterson Point	soil	est		3
	browse	est		2
	herbaceous understory	est		3
10R-6 Sweet Water Canyon	soil	est		3
	browse	est		3
	herbaceous understory	est		3
10R-7 Monument Ridge	soil	est		3
	browse	est		3
	herbaceous understory	est		2
10R-8 Upper Tom Patterson Point	soil	est		1
	browse	est		1
	herbaceous understory	est		1
10R-9 Winter Ridge Exclosure Out	soil	est		3
	browse	est		2
	herbaceous understory	est		4
10R-10 Winter Ridge Livestock Exclosure	soil	est		3
	browse	est		3
	herbaceous understory	est		2

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	Category	1997		2000
10R-11 Winter Ridge Total Exclosure	soil	est		4
	browse	est		3
	herbaceous understory	est		4
10R-12 Horse Ridge	soil	est		3
	browse	est		3
	herbaceous understory	est		3
10R-13 McCook Ridge Livestock Exclosure	soil	est		3
	browse	est		3
	herbaceous understory	est		4
10R-14 McCook Ridge Total Exclosure	soil	est		3
	browse	est		3
	herbaceous understory	est		4
	Category		1998	2000
10R-15 Saddle Horse	soil		est	2
	browse		est	3
	herbaceous understory		est	2
10R-17 Railroad Canyon	soil		est	1
	browse		est	1
	herbaceous understory		est	4
10R-19 Lower South Canyon	soil		est	3
	browse		est	3
	herbaceous understory		est	3
10R-20 Dick Canyon	soil		est	3
	browse		est	4
	herbaceous understory		est	4
10R-22 Rathole Ridge	soil		est	3
	browse		est	4
	herbaceous understory		est	5

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	Category		1998	2000
10R-23 South Rathole	soil		est	3
	browse		est	3
	herbaceous understory		est	4
10R-24 Upper Tent Canyon	soil		est	3
	browse		est	3
	herbaceous understory		est	4
	Category		1999	2000
10R-28 Indian Ridge #2	soil		est	NR
	browse		est	NR
	herbaceous understory		est	NR
10R-29 Massey Junction	soil		est	NR
	browse		est	NR
	herbaceous understory		est	NR

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